

REMARKS

Summary

The title, Figures 5, 13, and 14, Claims 3 and 18, and independent Claims 1, 5, 10, and 16 have been amended to overcome formal objections and/or a substantive objection or rejection. Therefore, the application is now in allowable form.

Status of the Claims

Claims 1-19 are pending. Claims 1-7, 10, 11, 13, and 16-19 have been amended for reasons unrelated to patentability to improve their form. In addition, Claims 3 and 18 have been amended to overcome a formal rejection and the independent claims have been amended to overcome a substantive rejection. Claims 1, 5, 10, and 16 are independent.

Requested Action

Applicants respectfully request the Examiner to reconsider and withdraw the objections and rejections in view of the foregoing amendments and the following remarks.

Title Objection

The title is objected to because it is not descriptive and the Examiner requires a new title that is clearly indicative of the claimed invention. In response, while not conceding the propriety of the objection, the title has been amended. Applicants submit that the amended title is now even more clearly indicative of the claimed invention.

Drawing Objections

Figures 5, 7, 11, 13, and 16 are objected to for alleged minor informalities therein.

In response, while not conceding the propriety of the objections, Figures 5, 13, and 14 have been amended and corrected formal drawing of these figures are enclosed to overcome the objections.

Regarding Fig. 7, Applicants note that the point input step S7000 may involve input of multiple points, as discussed, for example, in paragraph 0063. Thus, the number of points determined in the decision step S7010 may in fact be “four or more,” as stated in the figure. A similar explanation applies to Fig. 11. Accordingly, no change to these figures is submitted to be necessary.

Formal Rejection

Claims 3, 9, 15, and 18 are rejected under 35 U.S.C. § 112, second paragraph. In response, while not conceding the propriety of the rejection, Claims 3 and 18 have been amended to address the points raised by the Examiner. Applicants submit that as amended, these claims now even more clearly satisfy 35 U.S.C. § 112, second paragraph.

Regarding the rejection of Claims 9 and 15 under 35 U.S.C. § 112, second paragraph, Applicants submit that the phrase “the computer program” properly refers to the “computer program” recited in Claims 8 and 14, respectively. Therefore, the meaning of these phrases is quite clear and would readily be ascertainable by those skilled in the art. Accordingly, the claims are not indefinite under M.P.E.P. § 2173.05(e).

Substantive Rejection

Claims 1-19 have been rejected under 35 U.S.C. § 102(b) as being anticipated by “Consolidated Manipulation of Virtual and Real Objects,” Yoshifumi Kitamura and Fumio Kishino, Proceedings of the ACM Symposium on Virtual Reality Software and Technology, September 1997, pages 133-138.

Response to Substantive Rejection

In response, while not conceding the propriety of the rejection, independent Claims 1, 5, 10, and 16 have been amended. Applicants submit that as amended, these claims are allowable for the following reasons.

Amended independent Claim 1 relates to an information processing device for aiding control operations relating to controlling the position and orientation of a virtual object positioned in three-dimensional space. The device comprises image-taking means for taking images in real space in order to display the virtual object in a superimposed manner on real space, superimposing means for superimposing the virtual object with the taken image, inputting means for obtaining three-dimensional position information of a plurality of positions inputted by a user in real space, setting means for setting a constraining shape based on the obtained three-dimensional position information, and operating means for performing an operation controlling the position and the orientation of the virtual object based on the constraining shape in accordance with the user’s instructions. Support for the amendments to claim 1 is found at least in paragraphs [0028] - [0034], and [0044] - [0049], and in Figure 10.

By this arrangement, the user can set an arbitrary constraining condition easily, and the user can control the position and orientation of the virtual object easily.

In contrast, the citation to Kitamura, et al. is not understood to disclose or suggest inputting means for obtaining three-dimensional position information of a plurality of positions inputted by a user in real space, and setting means for setting a constraining shape based on the obtained three-dimensional position information, as recited by amended Claim 1. Therefore, this citation is also not understood to disclose or suggest operating means for performing an operation controlling the position and the orientation of the virtual object based on the constraining shape in accordance with the user's instructions, as also recited by amended Claim 1. Rather, the Kitamura, et al. citation is understood to merely relate to creating representations of real objects, combining these representations with virtual objects, and imbuing the virtual objects with certain physical properties, such as gravity and friction.

Since amended Claim 1 recites several features not understood to be disclosed or suggested by the citation to Kitamura, et al., the Patent Office is not understood to have satisfied its burden of proof to establish anticipation of amended Claim 1 over the Kitamura, et al. citation. And since independent Claims 5, 10, and 16 have been amended in similar or corresponding ways, the Patent Office is also not understood to have satisfied its burden of proof to establish anticipation of amended Claims 5, 10, and 16 over the Kitamura, et al. citation for similar reasons. Therefore, Applicants respectfully request that the rejection of independent Claims 1, 5, 10, and 16 over the Kitamura, et al. citation be withdrawn.

In addition, the independent claims are understood to be allowable over this citation for additional reasons.

For a reference to properly form the basis of an anticipation rejection, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” MPEP § 2131 (quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989))(emphasis added). Furthermore, the reference must be enabling:

The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation.

M.P.E.P. § 2121.01 (citing *Elan Pharm., Inc. v. Mayo Foundation for Medical and Education Research*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003)).

The Office Action cites Section 2 of the Kitamura, et al. citation as disclosing the claimed image-taking means. However, the cited portion merely discusses techniques for modeling real objects, such as by using range or stereo images. Such techniques generate a “shape representation of the real object in a computer system.” (Kitamura at pg. 134, first full paragraph), rather than images in real space that can be synthesized together with a virtual object and displayed in a superimposed manner, as recited in Claim 1. Thus, the Kitamura, et al. citation does not disclose the “identical invention.”

Moreover, the Kitamura, et al. citation does not provide an enabling disclosure of how these methods could be employed in any system, much less the claimed system. To the contrary, the Kitamura, et al. document states that:

Both approaches require troublesome work and special hardware to reconstruct the object shapes; therefore, it is not possible to bring a real object into a virtual world on demand, according to the user's irregular and sudden requirement.

(Kitmura, pg. 134, first full paragraph). The Kitmura, et al. citation also mentions the difficulties associated with image-based rendering techniques, stating that “[t]here is much literature devoted to this problem.” (Kitamura at pg. 134, second full paragraph). Again, the Kitmura, et al. citation does not provide an enabling disclosure of how such techniques might be employed to achieve the claimed invention. Instead, in the system described in the Kitmura, et al. citation, the “shapes of real objects are assumed to be known in advance,” which is utterly contrary to the approach of the claimed invention. (Kitamura, pg. 135, Section 5).

Accordingly, for this additional reason, the Patent Office is not understood to have satisfied its burden of proof to establish anticipation of Claim 1 over the Kitamura, et al. citation. And since amended independent Claims 5, 10, and 16 recite a feature similar or corresponding to the image-taking means recited in amended Claim 1, the Patent Office is also not understood to have satisfied its burden of proof to establish anticipation of amended Claims 5, 10, and 16 over the Kitamura, et al. citation for similar reasons. Therefore, Applicants respectfully request that the rejection of independent Claims 1, 5, 10, and 16 over the Kitamura, et al. citation be withdrawn.

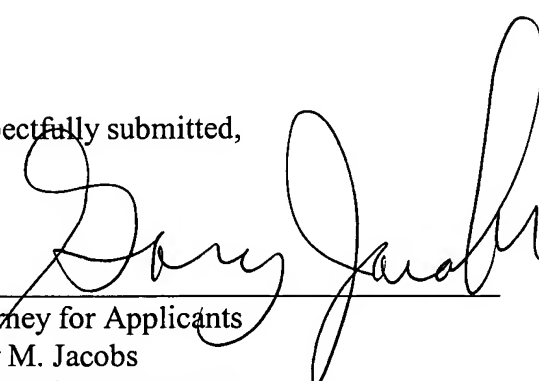
The dependent claims are allowable for the reasons given for the independent claims and because they recite features that are patentable in their own right. Individual consideration of the dependent claims is respectfully solicited.

In view of the above amendments and remarks, the application is now in allowable form.

Therefore, early passage to issue is respectfully solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (20) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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